

ment of the severe cold which reached Florida the night of the 17th was made on the 16th, and on the morning of the 17th this announcement was supplemented by special forecasts and warnings of freezing weather as far south as Tampa, Fla. As a result of these warnings thousands of acres of orange groves were protected either by the system of tents now in use, or by the use of dry heat. As a consequence, nearly all bloom was saved, which means many thousand dollars to the growers. A large acreage of pineapples and vegetables was also protected and saved. Figures furnished by growers show that the value of orange and other citrus trees, pineapples, and vegetables saved aggregate over \$500,000.

The month closed with heavy snow from the upper Mississippi Valley over the lower lakes and New York. In New York snow began the night of the 28th and continued until March 1, except in the southeast portion of the State, where heavy rain fell.

Special and timely notifications were given to transportation companies and shippers of the heavy snowfalls of the month, and advantage was taken of the warnings to prepare for the snow and to prevent or reduce interruption to travel.

The night of the 20th a severe windstorm occurred along the east Gulf coast. Notwithstanding the fact that due warning was given of this storm many vessels in the bay at Pensacola, Fla., allowed their tows of timber to remain along side, and the timber was scattered along the beach by the storm.

On the 24th and 25th high winds prevailed over the eastern Gulf and western Cuba. Advisory warnings of these winds were sent as far south as Key West, Fla., on the 23d, and on the morning of the 24th storm signals were ordered on the south Atlantic coast, and agents of vessels bound north from Havana, Cuba, were notified that strong northwest winds would be encountered near the Florida coast. During the 24th vessels were delayed on the southern Florida coasts, and the Morgan Line steamer *Whitney* was disabled on a trip from Key West, Fla., to Havana, Cuba.

From the 10th to the 15th a rapid rise occurred in the rivers and streams of the east Gulf and South Atlantic States, and about the middle of the month destructive floods occurred in eastern New York and New England.

CHICAGO FORECAST DISTRICT.

The month was marked by decided changes in temperature and by the movement of three cold waves. The first two swept the entire district, but the influence of the third was not felt in the Rocky Mountain region. Cold-wave signals were ordered up at every station from twenty-four to thirty-six hours in advance of the movement of these cold waves, and all interests had an ample opportunity to prepare for these severe conditions.

On the evening of the 3d snow warnings were distributed to the observers and transfer companies in northern portions of Illinois and Indiana and the southern half of Lower Michigan. The month closed with heavy snow in the lower Missouri and upper Mississippi valleys and the southwestern lake region. A high northeast wind piled the snow into huge drifts making transportation most difficult. Ample warnings for heavy snow were thoroughly distributed in the districts named, and had it not been for the advices serious blockades would have resulted on many of the railroads. The greatest 24-hour snowfall ever recorded was reported at many of the stations during the storm.

The fact that no casualties occurred on Lake Michigan during the month is undoubtedly due to the ample warnings which were issued in advance of all storms.—*H. J. Cox, Professor.*

SAN FRANCISCO FORECAST DISTRICT.

The month, as a whole, was unusually dry and there were but few storms of marked importance.

Frost occurred on February 6 generally throughout the valleys; but little damage was reported. Warnings of frost, severe in exposed places, were issued on the 7th for California and Arizona.

A special forecast from Washington, D. C., stated that severe cold and high northerly winds would prevail in Arizona and southern California. These warnings were for the most part verified. Heavy frosts occurred generally in the valleys of California. In Arizona the temperature fell to 40° at Phenix and no damage was reported. High northerly winds prevailed both in the Sacramento and San Joaquin valleys and in southern California.—*Alexander G. McAdie, Forecast Official.*

PORTLAND, OREG., FORECAST DISTRICT.

The storms of the month moved in high latitudes over British Columbia, as a rule, and passed eastward with great rapidity. One of these on the night of the 5-6th caused gales over lower Puget Sound, which did some damage to wharfs.

Heavy rains and warm weather caused a rapid rise in the river, beginning on the 22d, and on the 24th it reached a stage of 10.4 feet. Forecasts were issued from the 22d to the 25th, which were timely and accurate.—*G. N. Salisbury, Section Director.*

HAVANA FORECAST DISTRICT.

No severe storms occurred in the West Indies during the month. On a number of dates strong winds attended the passage of storms over the southeastern part of the United States, and the cold wave which overspread Florida about the middle of the month caused a very appreciable fall in temperature in Cuba.—*W. B. Stockman, Forecast Official.*

AREAS OF HIGH AND LOW PRESSURE.

During the month of February twelve highs and thirteen lows moved across the country in paths sufficiently well defined to admit of charting. Their directions of movement and some of their principal characteristics were as follows: (See Charts Nos. I and II.)

Highs.—Eight of the twelve highs originated either in the western Saskatchewan Valley or in northern Alberta. No. I moved southeastward to the Virginia coast in two and one-half days. No. II took the same course, although at lesser speed, as far as Iowa, where it dissipated. No. III moved to eastern Wisconsin, where it was joined by another section which had moved in from northern Nevada; the combined crest then turned northward to Lake Superior, and from thence moved eastward to the Newfoundland coast. On the morning of the 9th there was a high over the north Pacific coast, which remained there until the morning of the 12th, when it moved over into Alberta. It then gradually overspread the British Northwest, the crest remaining generally over Alberta until the night of the 15th, when it moved southward, Helena, Mont., on the morning of the 16th, reporting the abnormally high reading of 31.12 inches. It continued after this time with steadily decreasing intensity almost due southward to southern Texas, and thence eastward across the Florida Peninsula. This high is charted as No. V. No. VI, after an irregular course to Lake Superior, turned sharply to the southward, and disappeared off the North Carolina